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Marine Interstitial Testacea from Plau Pinang, Malaysia

With 4 Text-figures

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ABSTRACT *Micramphoraepsis pinangensis* g. n. et sp. n. and *Volutella cochlea* sp. n. from Penang beach, Malaysia, are described and figured. The former regarded as an intermediate genus between *Micramphora* and *Psammonobiotus* is clearly different from both the genera in having a hat-shaped contour. The latter can be readily distinguishable from *Volutella hemispiralis*, only one species hitherto reported, by the mode of coiling of the test.

Some 10 species of Testacea or testaceous Rhizopoda have been extracted from 5 sand samples, 100–150 gramme each in dry weight, collected from the layer 15 cm deep from the surface at the sites along the high tidal line of a sandy beach called Gurney Drive, Penang Island, Malaysia, on 9th October, 1976, by the present writer with the help of Che Harith and his wife. These sand samples were brought back to the writer's laboratory in Ômiya and the artificial sea water was added 1–2 days before observations. The size of sand grains varies from 160–460 μm (average; 220 μm).

The species found in this way are as follows:

1. *Cyclopyxis kahli* Chardez, 1972? Rare.
2. *Cyphoderia littoralis* Golemansky, 1974. Common. Test 42–50 μm long, 18–19 μm wide and 17–20 μm high. Pseudostome aperture $10 \times 9 \mu\text{m}$.
3. *Lagenidiopsis elegans* (Gruber, 1884) Golemansky, 1976. Rare. Test 52 μm long, 30 μm wide. Stylet 32 μm long. Very small specimen compared with the type-specimen of Golemansky (1976).
4. *Micramphora pontica* Valkanov, 1970. Rare. Test 12–13 μm long, 10–11 μm wide. Pseudostome elongation 10–12 μm in diameter.
5. *Micramphora tokioensis* Sudzuki, 1979. Common. Test 40 μm long, 29 μm wide. Pseudostome elongation 39 μm in diameter.
6. *Micramphoraepsis pinangensis* g. n., sp. n. Rare. Description later.
7. *Phryganella marinus* Chardez, 1971? Rare. Test 40 μm in diameter.
8. *Psammonobiotus balticus* Golemansky, 1973. Very common and abun-

dant. Test 18–25 μm long, 12 μm wide.

9. *Psammonobiotus golemanskyi* Chardez, 1971? Very rare.

10. Genus? like *Sphenoderia*. Common. Test 20 μm long, 12 μm wide. Neck 5 μm long, 9 μm wide.

11. *Volutella cochlea* sp. n. Rare. Description later.

DESCRIPTION OF SPECIES

Micramphoraepsis pinangensis gen. et sp. nov.

(Figs. 1–2)

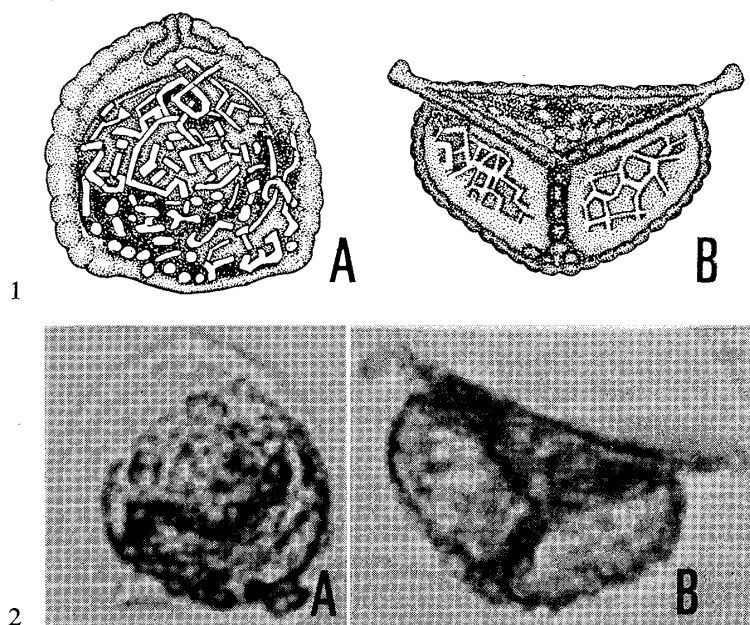
Typus generis: *Micramphoraepsis pinangensis* sp. nov.

Diagnosis. Pseudopods filiform without reticulo-granulation. Pseudostome 1 in number. Aperture terminal. Test usually without foreign particles. If present, always without quartz. No regular big scales as family Euglyphidae. Pseudostome elongation not funnel-shaped. Neck wanting.

Description of species. Body hat-shaped. Test smaller than pseudostome elongation. A number of small, comparatively regular scaled ornamentation on the pseudostome elongation; irregular ornamentation usually on the test.

Measurements. Test 20 μm long, 25–26 μm wide and 16–19 μm high. Pseudostome elongation 28–29 μm long, 32–33 μm wide. Pseudostome 17–18 μm ~ 5–6 μm in diameter.

Remarks. The present genus is characterized by showing a hat-shaped contour. Readily distinguishable from the related genus *Micramphora* Valkanov, 1970, by lacking the so-called neck, from another allied genus *Psammonobiotus* Golemansky,



Figs. 1–2. *Micramphoraepsis pinangensis* sp. n. — A, Dorsal side; B, lateral side.

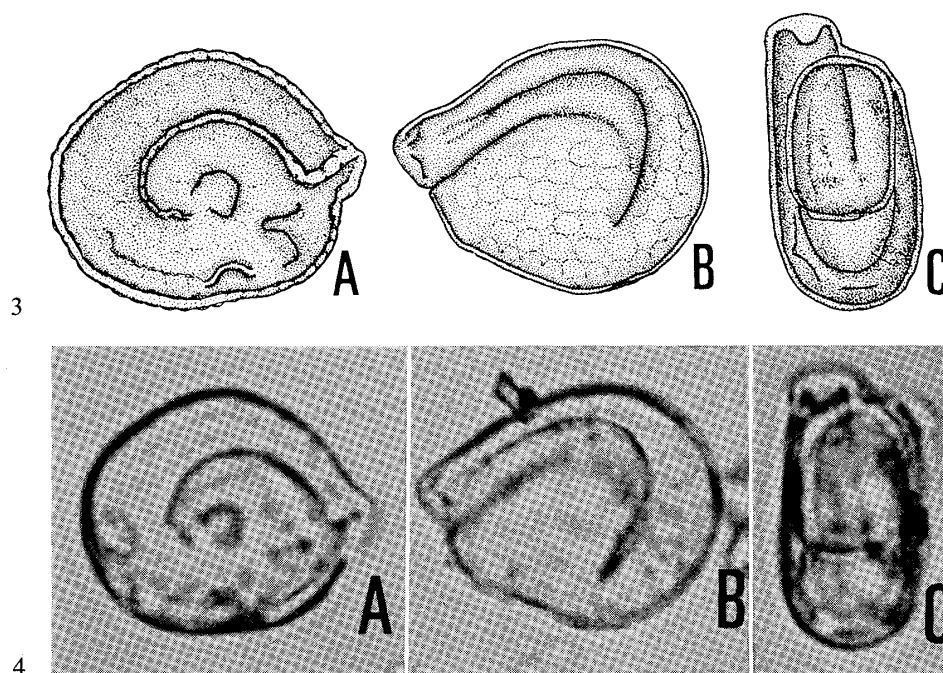
1968, by having a terminal aperture.

Holotype and 2 paratypes are deposited in the collection of the Biol. Lab., Nihon Daigaku, Ômiya.

Volutella cochlea sp. nov.

(Figs. 3–4)

Description of species. Test snail-shaped, i. e. more coiled and more globular than in *V. hemispiralis* Chardez, 1972.



Figs. 3–4. *Volutella cochlea* sp. n. — A, Right side; B, left side; C, ventral side.

Measurements. Test $21\ \mu\text{m} \times 19\text{--}20\ \mu\text{m}$ in size, $10\ \mu\text{m}$ in height.

Remarks. This genus reminds the present writer of Foraminifera, another class of Sarcodina in the features of test and pseudopods.

Holotype is deposited in the collection of the Biol. Lab., Nihon Daigaku, Ômiya.

ECOLOGY

From the same sand samples, the following micro-organisms were recovered: *Bodo* spp., *Hexamitus* sp., *Parabodo* spp., *Pleuromonas* sp., *Polytomella* sp., *Trigonomonas*?, *Amoeba* spp., *Trichamoeba* sp. like *palida*, *Vahlkampfia* spp., *Cochliopodium*?, *Pulvinulina*?, *Cyclidium curvatum*?, *Colpoda* sp. like *steini*, *Chilodonella* sp., *Drepanomonas*?, *Loxodes* sp., gen.? (Oxytrichida) and 2 kinds of nematodes.

The numbers of individuals (left) and species (right) per $1.0\ \text{cm}^3$ sand are as

follows: Zoomastigophora: 14–210 (average: 78)/1–6, Amoebida: 0–12 (average: 3)/0–1, Testacea: 0–46 (average: 20)/3–4, Foraminifera: 0–16 (average 8)/1–3, Actinopoda: 0/0, Holotricha: 0–46 (average: 24)/0–2, Spirotricha: 0–48 (average: 20)/0–3, Gastrotricha: 0/0, Nematoda: 0–4 (average: 2)/0–2, Rotatoria: 0/0, Crustacea: 0–2 (average 1)/0–1.

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